16. *(withdrawn):* The reactor of claim 15 having a substrate positioned proximate said outlet and means to deposit said MN vapor on said substrate as a film or layer.

17. *(withdrawn):* The reactor of claim 15 wherein the outlet of said first container extends into a proximate second container which holds ammonia and means for flowing said MI vapor into said second container to form MN vapor and to deposit said MN vapor on a substrate or on one or more seeds or to self-nucleate on the walls of said second container, and vacuum pump means being applied to said second container, downstream of the depositing MN vapor.

18. *(withdrawn):* The reactor of claim 17 wherein a substrate is mounted in said second container proximate said outlet for deposit of said MN thereon.

19 *(withdrawn):* The reactor of claim 17 wherein said first and second containers are elongated.

20 (new): The method of claim 9 wherein said first boat is heated to vary the vapor pressure of I_2 and the second boat is heated to vary the formation rate of MI to control the quality and quantity of the deposited MN.

REMARKS

Claims 1-19 and new claim 20 are in the present application. Claims 1 & 7 have been amended as indicated. These claims and new claim 20, find support in the specification on pages 4, 5 & 7 and in Figure 1 and no new matter has been added.

As requested by the above Office Action, the above non-elected claims 15-19 are cancelled without prejudice to re-filing of same.

The Office Action rejection of claims 1-8 & 13, 14, as obvious under 35 USC 103 (a) over Vaudo et al ('581) in view of Hirota et al ('299 A 2), is respectfully traversed.

Vaudo et al teach a one boat method in which a halide vapor is flowed over a molten metal in such boat to form a metal halide which then is flowed into contact with ammonia in a deposition zone to form MN with little control over the MN formation rate

and the quality of the deposited MN product.

Applicants, however, provide a two boat method where chunks of iodine in a first boat are heated to emit an I_2 vapor which is flowed downstream over heated metal in a second boat, to form MI which is then flowed into contact with ammonia in a deposition zone where it deposits as MN. Also, applicants provide for control of MN formation by heating the above two boats to control the metal pick-up rate or MI formation, as defined in claim 1, as amended and in new claim 20. This control is not suggested by Vaudo et al nor the other cited references.

Also, claims 2-8 and 13, 14, are believed distinguished over the above applied references in view of their dependence from claim 1, as amended, which is believed novel thereover, as discussed above.

The Office Action rejection of claims 9-12 as obvious under 35 USC 103 a) over Vaudo et al ('581), in view of Hirota et al ('299 A2) and further in view of Jain ('163), is respectfully traversed.

Applicants' claims 9-12 are believed distinguished over the above the first two references in view of their ultimate dependence from claim 1, as amended, which is believed novel thereover as discussed above. As to the Jain reference, it discloses, not a method for forming metal nitrides from iodine, a two step process, but a one step process wherein a gaseous stream of iodine is flowed through a wad of quartz wool containing silicon particles and deposits silicon layers on a substrate. That is, silicon is carried by iodine from point A to point B, still as silicon and not a different compound such as metal nitride. Further, the wad containing crushed silicon can cause a buildup of impurities, which can flow onto the substrate.

Now looking the three references in combination, note that claims 9-12 define a two-boat (in series) process whereas the cited references each disclose a one-boat (in series) process. With a two-boat process, one can control the temperature of the iodine boat and thus its vapor pressure and one can control the temperature of the metal boat and the metal pick-up rate or MI formation. This means the growth rate, thickness and quality of the MN product can be controlled in a fine tuning process, not achievable in a one-boat process as attested to in the enclosed Declaration under 37 CFR 1.132.

In view of the foregoing, the claims of record, as amended, are believed

distinguished over the applied art and in condition for allowance.

In accordance with Section 714.01 of the M.P.E.P., the following information is presented in the event that a call may be deemed desirable by the Examiner: to Thomas C. Stover, (781) 377-3779.

Respectfully submitted,

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